



EFFECT OF METACOGNITIVE STRATEGIES IN OVERCOMING DYSCALCULIA AMONG LEARNING DISABILITY STUDENTS

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ABSTRACT

This present investigation has aimed to identify the achievement in reading and mathematical skill of the students in the whole educational process. The present investigation is a fruitful one for the learning community for the betterment of educational process in their entire life. Metacognitive strategies play a vital role for the student's academic achievement in reading and mathematical calculations. Learning disabilities refers to significant learning problems in an academic area. It describes a group of disorders characterized by inadequate development of specific academic, language (Reading, writing) and mathematics. Students who are not able to read and write and comprehend mathematics can be called learning disabled children. Metacognition refers to higher order thinking which involves active control over the cognitive processes engaged in learning. It evolves three stages namely planning, monitoring and evaluation. So as to make the students have got higher order thinking for overcoming disabilities

KEYWORDS: Metacognition, learning disabilities, Mathematics, Dyscalculia, Dyslexia.

INTRODUCTION:

The primary schools play a vital role in all round development of children. Even in their primary level more attention has been focused on such concepts such as mathematical scientific, linguistic and social and thereby the children are forced to mug up the content without any consideration to their learning abilities. Most of the teachers fail to understand and find out the learning disabilities of their children at the primary level. It is a general fact that unless and until the students learn to develop scientific point of view on researching, objectivity through analysis etc. between cannot able to discharge their duties effectively. A good teacher of language and methods may possess qualities like knowledge of subject, good memory, effective teaching for joyful learning of the students etc. Learning by doing, hearing by experience may help the children to develop their comprehension skill so as to apply what they have learned in day to day life. In the other hand learning disability is disorder that affects the manner in which individuals with average or above average intelligent select, retains and expresses information. The effectiveness of metacognition strategies paves the way for enhancing the learning among the students who are with dyslexia and dyscalculia

In this juncture, the investigator of the present study becomes an interest to identify the learning disability of the children so that the present study can overcome the learning disabilities by the application of Metacognitive strategies.

OBJECTIVES OF THE STUDY:

1. To identify the level of disabilities such as dyscalculia and dyslexia among primary school children
2. To develop and validate Metacognitive strategies to overcoming the learning disabilities among primary school children
3. To implement the Metacognitive strategies among students to overcome the learning disabilities among primary school children
4. To find out the effectiveness of metacognitive strategies to overcoming the learning disabilities among primary school children
5. To find out the significant difference if any between the pre, and post assessment of the learning disabilities of primary school children

METHODOLOGY:

Experimental design is the process of planning a study to meet specified objectives.. The present study single group experimental design as follows

SAMPLE:

The investigator has taken 50 samples from 10 schools for the present investigation by using purposive random sampling techniques. The sample consist of students of V standard in Kalaiyarkoil block, Sivagangai district, Tamilandu

TOOLS USED FOR THE STUDY

- Questionnaire for pre test and post test

STATISTICAL TECHNIQUES USED:

- Percentage Analysis

- Descriptive Analysis

- Differential Analysis

HYPOTHESES OF THE STUDY:

1. The level of disabilities such as dyscalculia and dyslexia among primary school children is moderate
2. There is a significant difference between the pre, and post assessment of the learning disabilities of primary school children

Table 1: The level of disabled students learning achievement through metacognitive strategies

Students	Pre test	Post test
Dyslexia	43%	64%
Dyscalculia	46%	71%

The above table reveals that the percentage score of the pre –test and post –test for dyslexic and dyscalculic students. It is inferred that dyscalculic students have more score (71%) than dyslexic students (64%) in the post test. From the above table it is found that metacognitive strategy helps dyscalculic more in their learning achievement.

Table 2: Mean and Standard deviation of pre test and post test score of learning disabled (dyslexic) students through metacognitive strategies

Dyslexia	N	Mean	SD	t test
Pre test	25	17.04	1.67	12.83
Post test	25	34.4	6.55	

Significant at 0.05 level (2.01)

The above table reveals that the scores of the pre test and post test of dyslexia students. It is inferred that the post test achievement mean score (34.4) is greater than the pre test achievement mean score (17.04).

Table 3: Mean and SD of pre test and post test score of learning disabled (dyscalculia) students through metacognitive strategies

Dyscalculia	N	Mean	SD	t test
Pre test	25	17.56	1.85	35.25
Post test	25	36.72	1.99	

Significant at 0.05 level (2.01)

The above table reveals that the scores of the pre test and post test of dyscalculia students. It is inferred that the post test achievement mean score (36.72) is greater than the pre test achievement mean score (17.56).

EDUCATIONAL IMPLICATIONS:

- Training programmes can be organised for the who are handling dyslexic students in the meta cognitive strategic technique in order to understand intervene reading habits and makes arithmetic operations.
- Teachers should be trained to the meta cognitive strategies to encourage the cooperative learning of children with or without special needs. The application of metacognitive strategic intervention may be entered to all learning situations.
- workshops should be organized to keep teachers updated with the ongoing changes in educational strategies in respect of learning disabilities
- Metacognitive Strategies can be applied to children all levels to overcome their difficulty in learning achievement in mathematics
- Motivating dyslexic children to participate in role-plays and drama may help them at par with their peers.
- Motivating dyscalculia children to participate in maths quiz programme and to make mathematics puzzles which may help the dyscalculia children

CONCLUSION:

The present research study was carried out with an intention of exploring the possibilities of devising an integrated methodology which could enable children to overcome their learning disabilities in reading (dyslexia) and math arithmetic skill (dyscalculia) and teach them strategies to "learn to read" and learn to do arithmetic operations" and make them life long learners. Hence the metacognitive strategic technique were used to develop the components of reading and in arithmetic operations. Due to lack of awareness among teachers handling disabled and the parents, most of the disabled children with Dyslexia and often denied, the type of care and special attention that is required to overcome their hidden learning disabilities and they end up with aversion towards learning.

Meta cognitive strategies create a state of readiness to read and calculate build confidence, raises self – awareness and create self – esteem towards inter and intra personal skills and to mirror successful and best practices with preferred learning strategies learnedness and teachers. Teachers with the help of metacognitive strategic tools can provide explicit, intensive and extensive classroom instruction for self motivated learning. Let us all dedicate ourselves for the cause of educating innocent disabled children who will lead India in the intellectual society making it a knowledge super power in future.

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